

ANIMAL TRAILS AND WALKWAYS

(Feet)
Code 575

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

Established lanes or travel ways that facilitate animal movement.

II. Purposes

This practice may be applied as part of a conservation management system to accomplish one or more of the following purposes.

- Provide or improve access to forage, water, working/handling facilities, or shelter.
- Improve grazing efficiency and distribution.
- Protect ecologically sensitive, erosive, or potentially erosive sites.

III. Conditions Where This Practice Applies

This practice applies on lands where animal movement is needed to facilitate access, improve grazing, prevent erosion, and/or protect ecologically sensitive areas.

IV. Federal, State, and Local Laws

Users of this standard should be aware of potentially applicable federal, state and local laws, rules, regulations or permit requirements governing animal trails and walkways. This standard does not contain the text of federal, state, or local laws.

V. Criteria

A. The following criteria apply to all purposes.

1. Cross Section

Walkways shall be constructed wide enough to accommodate movement of livestock and access by the operator but shall be a minimum of four (4) feet wide.

The walkway cross section shall be based on the drainage classification of the soil map unit. See Table 2.

Walkways shall be constructed with a crown or sloped in one direction to drain water. The crown or slope shall be a minimum of 5% measured perpendicular to the direction of travel.

Cut and fill slopes for walkway construction shall be stable. The maximum slope shall be 2:1 (2 Horizontal to: 1 Vertical). Cut and fill slopes shall be vegetated according to Wisconsin Field Office Technical Guide (FOTG), Section IV, Standard 342, Critical Area Planting.

2. Grade

Walkways shall be constructed in such a manner that accelerated erosion will not occur. Walkway grades should not exceed 10 percent except for short lengths. If a walkway grade greater than 10 percent is necessary, the length should be limited to the distance between drainage structures shown in Table 1.

3. Drainage Structures

Drainage structures such as culverts, open top culverts, broad or narrow based dips for cross drains, and diversion ditches and berms may be required to safely dispose of runoff water. Maximum spacing of these structures is given in Table 1. These structures shall have stable outlets and convey runoff at non-erosive velocities.

Table 1

Recommended Distances Between
Drainage Structures

| Lane Grade % | Distance (feet) |
|--------------|-----------------|
| 1 | 400 |
| 2 | 250 |
| 5 | 130 |
| 10 | 80 |
| 15 | 50 |
| 20 | 40 |

Table 2
Walkway Cross Section

| Option | Cross Section Option* | Soil Drainage Classification | | |
|--------|---|---------------------------------|-------------------------|----------------|
| | | Well to Moderately Well Drained | Somewhat Poorly Drained | Poorly Drained |
| A | Raised earth | X | | |
| B | Minimum 6" <i>crushed stone</i> | X | | |
| C | Minimum 6" crushed stone over WCS-13** Class IV geotextile | X | X | |
| D | Minimum 4" crushed stone over a 6" base course of <i>graded rock</i> | X | X | |
| E | Minimum 4" of crushed stone over 8" base course of graded rock over WCS-13 Class IV geotextile | X | X | X |
| F | Minimum 4" of crushed stone over an 8" base course of graded rock over 6" of sand and fine gravel | X | X | X |

* 3" of concrete or 3" of blacktop can be substituted for the crushed stone contained in any option.

**WCS-13: Wisconsin Construction Specification 13, Geotextiles.

4. Crossings

Trails or walkways that cross natural drainage patterns or constructed channels shall be designed to be stable for design velocities computed for a 10-year, 24-hour duration storm or bankfull flow, whichever is less.

Culverts may be installed to carry a portion of the design storm.

Base course materials shall be designed to resist anticipated flow velocities. Allowable velocities for various sizes of rock surfacing material are shown in NRCS National Engineering Handbook (NEH), Part 651, Engineering Field Handbook (EFH), Chapter 7.

Trails or walkways that ford perennial streams shall be constructed according to the criteria contained in FOTG, Standard 578, Stream Crossing.

B. Additional Criteria Applicable to Providing or Improving Access to Forage, Water, Working/Handling Facilities and/or Shelter

Trails and walkways will be designed and constructed of sufficient size to accommodate the expected frequency of use and animal type(s) planned for the operation.

When needed to facilitate movement of animals through a series of paddocks or pastures, gate openings and lane layouts shall allow for efficient flow of animals with the least amount of stress.

C. Additional Criteria Applicable to Improving Grazing Efficiency and Distribution

Fenced or unfenced animal trails or walkways will be used to distribute grazing to overcome terrain features causing uneven grazing distribution and pressure.

D. Additional Criteria Applicable to Protection of Ecologically Sensitive Areas

Cultural resources, threatened or endangered species, wetlands, streambanks, floodways or other ecologically sensitive areas, and areas of special scenic value will be protected through the proper design of trail(s) or walkway(s).

VI. Considerations

Additional recommendations relating to design that may enhance the use of, or avoid problems with, this practice but are not required to ensure its basic conservation functions are as follows.

- A. Other practices that facilitate grazing distribution and proper intensity, such as prescribed grazing, watering systems, or fencing, should be implemented along with this practice.
- B. The time required to move cattle from one area to another shall be considered when planning the trail or walkway width.
- C. Trail and walkway design should consider the expected frequency and contact pressure of livestock and any vehicle traffic.
- D. A layer of clean sands, limestone screenings, or other materials to provide cushioning for livestock hoof contact should be considered.
- E. Ditches or subsurface drains should be considered to remove excess water adjacent to walkways.

VII. Operation and Maintenance

An operation and maintenance plan shall be developed that is consistent with the purpose of this practice, intended life of the components, and criteria for design. The plan shall include but is not limited to:

- A. Annual inspection and following significant storm events to determine repair and maintenance needs.
- B. Periodic grading or shaping of walkways to maintain the designed dimensions or grades.
- C. Periodic addition of surfacing materials where used.
- D. Re-seeding of areas in which the vegetation has been damaged or destroyed.
- E. Mending of fences and replacement of gates.

- F. Periodic removal and management of manure accumulations.

VIII. Plans and Specifications

Plans and specifications for constructing animal trails and walkways shall be in keeping with this standard. A site-specific design and construction plan is required to describe the requirements for applying the practice to achieve its intended purpose.

IX. References

Wisconsin's Forestry Best Management Practices for Water Quality, Wisconsin Department of Natural Resources, Bureau of Forestry.

USDA NRCS National Engineering Handbook, Part 650, Engineering Field Handbook.

USDA NRCS, Wisconsin Field Office Technical Guide, Section IV, Conservation Practice Standards and Specifications.

X. Definitions

Crushed stone (V.A.6) – 100% passing 3/4 in sieve and 10% maximum passing the #200 sieve.

Graded rock (V.A.6.) – 100% passing the base course thickness dimension and a maximum of 10% passing the 3/4 inch sieve. All sizes between the limits shown on the drawings are to be represented.